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SATKIEWICZ, THOMAS E				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/774,181

**Applicant(s)**

CHAMBERS ET AL.

**Examiner**

THOMAS E. SATKIEWICZ

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 06/04/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 8 and 9 are objected to because of the following informalities: Claim 8 is dependent to Claim 8, and Claim 9 is dependent to Claim 9. It was assumed in this Office Action that Claims 8 and 9 are dependent to Claim 1. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. With regards to claim 1, the phrase "a plurality of packet transceiver system, each transceiver module" is unclear as whether "transceiver system" and "transceiver module" are synonymous or distinct. Also hub is cited on Line 4 and 8, and it is unclear as to whether hub on line 4 is the same or different as hub on line 8. Plus the phrase "said second transceiver module" lacks antecedent basis, and also it is unclear to which of the plurality of modules "said second transceiver module" refers.

5. With regards to claims 2-16, all are dependent claims to claim 1, so they incorporate the limitations of the parent claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-9, 11, 17-21, 24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Sabat Jr. (U.S. 6,415,132).

1. With regards to claim 1, Sabat Jr. teaches a wireless communication system (Fig #1, 10) the system comprising; a plurality of packet transceiver systems (Conventional Base Transceiver Stations (BTS) (Fig #1, 12-1...12-n)), each transceiver module (BTS (Fig #1, 12-1...12-n)) located at one of a plurality of cell sites (Exemplary Cell (Fig #1, 22-1...22-5)) in said wireless communication system (Fig #1, 10), each of said first transceiver modules (BTS (Fig #1, 12-1...12-n)) communicatively coupled to a hub (Hub Interface Converter (HIC) (Fig #1, 16)) via a first transport communication medium (Coaxial Cable (Column 5, Lines 50-54; Fig #1, 14-1...14-n)) and configured to receive RF radio signals (Column 5, Lines 36-42) over a wireless link ( Mobile Subscriber Unit, Column 5, Line 63) and process the received RF signal to produce packetized demodulated bit streams for transmission over the first transport communication medium (Column 5, Line 63 – Column 6, Line 24); a hub ((HIC) (Fig #1, 16)) at least one traffic consolidator unit (TCU) ((HIC) (Fig #1, 16) configured to receive the packetized demodulated bit stream transmitted by the packet transceiver systems (BTS; Fig #1, 12-1...12-n) via the first transport communication medium and process the

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received packetized demodulated bit streams to reproduce the RF radio signals transmitted over said wireless link (Column 5, Line 62- Column 6, Line 7); a base transceiver station (BTS; Fig #1, 12-1...12-n) communicatively coupled to said second transceiver module (BTS; Fig #1, 12-1...12-n) and configured to process the reproduced RF radio signal to produce a T1/E1 signal (Column 5, Lines 50-54); and a mobile switching office ((MSO) Cable Microcell Integrator (CMI) Fig #1, 20-1...20-n)) in communication with the hub (HIC Fig #1; 16) via a second transport communication medium (Column 5, Line 63- Column 6, Line 24) and configured to receive and process the T1/E1 signal (Column 5, Lines 50-54).

2. With regards to claim 2, Sabat jr. teaches a wireless communication system, wherein the first and second transport communication mediums are Ethernet over copper traffic flow (Column 5, Lines 55-61).
3. With regards to claim 3, Sabat Jr. teaches a wireless communication system, wherein the first and second transport communication medium are optical fiber rings (Column 5, Lines 55-61).
4. With regards to claim 4, Sabat Jr. teaches wireless communication system, wherein the optical fiber ring is a SONET/SDH ring (Column 5, Lines 55-61).
5. With regards to claim 5, Sabat Jr. teaches wireless communication system, wherein the optical fiber ring is a Gigabit Ethernet ring (Column 5, Lines 55-61).
6. With regards to claim 6, Sabat Jr. teaches wireless communication system, wherein the optical fiber ring is a 10 Gigabit Ethernet ring (Column 5, Line 55-61).

7. With regards to claim 7, Sabat Jr. teaches wireless communication system, further comprising a plurality of remote cell site antennas (Column 5 Lines 35-49) disposed at said plurality of cell sites, said antennas coupled to said packet transceiver system and configured to transmit said RF radio signal from mobile users over said wireless link to said packet transceiver systems (Column 5, Line 43-Column 6, Line 17).
8. With regards to claim 8, Sabat Jr. teaches wireless communication system, wherein the cell site antennas are equipped with smart technology (Column 9, Line 45-Column 10, Line 67).
9. With regards to claim 9, Sabat Jr. teaches wireless communication system, wherein the cell site antennas are configured to detect changes in RF capacity in the network (Column 9, Line 45-Column 10, Line 67).
10. With regards to claim 11, Sabat Jr. teaches wireless communication system, wherein the traffic consolidator unit comprises; a control shelf comprising; a system control module; an independent switching fabric; an integrated test and performance monitoring card; and a plurality of input/output (I/O) cards; a bearer shelf configured to perform bearer channel processing, switching, testing, performance monitoring and transport (Column 8, Lines 27-67).
11. With regards to claim 17, Sabat Jr. teaches a method for transporting digital bit streams extracted from radio frequency (RF) signals between antennas and processing elements in a wireless communication network, the comprising; receiving a RF (Radio Frequency) signal at a packet transceiver system over a wireless link via an antenna, said first transceiver located at one of a plurality of remote cell sites (Column 5, Line 43-

Column 6, Line 7); processing the received RF signal at said packet transceiver system to produce a packetized demodulated bit stream supporting serial transmission of the bit stream over a first transport communication medium (Column 6, Lines 52-64); transmitting the bit stream over the first transport communication medium to a traffic consolidator unit located at a hub in the network (Column 6, Lines 43-50); upon receipt of the transmitted bit stream at the traffic consolidator unit, processing the received bit stream at the traffic consolidator unit to re-produce the RF signal received at the packet transceiver system (Column 7, Lines 31-39); providing the reproduced RF signal as an input to a base transceiver station (BTS) located at said hub (Column 7, Lines 31-49 and Column 8, Lines 9-21); processing the reproduced RF signal at the BTS to produce a T1/E1 signal (column 7, Lines 43-49); providing the T1/E1 signal as an input to the traffic consolidator unit; packetizing the T1/E1 signal at the traffic consolidator unit to produce a packetized T1/E1 signal (Column 8, Lines 40-46) transmitting the packetized T1/E1 signal over a second transport communication medium to a mobile switching office (MSO); and upon receipt of transmitted bit stream at the MSO, processing the received packetized T1/E1 signal to produce a channelized circuit-switched T1/E1 signal (Column 9, Lines 45-56).

12. With regards to claim 18, Sabat Jr. teaches a method, wherein the RF signal is transmitted from a mobile station over the air to the first transceiver unit via fixed RF antenna device (Column 5, Line 62-Column 6, Line 17).

13. With regards to claim 19, Sabat Jr. teaches a method, wherein the first and second transport communication medium are one of a fiber optic link and a high-speed copper pair(s) (Column 2, Lines 56-67).

14. With regards to claim 20, Sabat Jr. teaches a method, wherein the act of processing the received RF signal at the packet transceiver system, further comprises the acts of demodulating the RF signal to extract bit information (Column 1, Lines 55-57 and Column 3, Lines 1-3); constructing said packetized demodulated bit stream in accordance with a digital packet transport protocol (Column 1, 55-67); prioritizing said packetized demodulated bit stream in accordance with pre-determined policies (Column 4, Lines 40-51); optionally routing said prioritized and packetized demodulated bit stream in accordance with applied policies (Column 3, Line 46-Column 4, Line 14); applying said policies to automatically adjust bandwidth utilization parameters and baseband processing capacity based on real-time network conditions (Column 3, Lines 18-30).

15. With regards to claim 21, Sabat Jr. teaches a method, further comprising inserting transit priority coding based on said prioritization (column 3, Lines 45-67).

16. With regards to claim 24, Sabat Jr. teaches a method, for automatically adjusting network bandwidth in response to a change in RF activity in the network, the method comprising; monitoring a plurality of network parameters related to RF capacity; determining if an increase/decrease in RF activity has occurred based on said monitored parameters; and automatically adjusting the bandwidth between one of the



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following sites, Cellsite, and hub, Hub to MSO, hub to hub or MSO to MSO (Column 9, Line 66-Column 11, Line 14).

17. With regards to claim 25, Sabat Jr. teaches a method, wherein the plurality of network parameters comprise; a first parameter for monitoring an RF signal after conversion to a digital signal, a second parameter for monitoring an RF front end and/or antenna presence, a third parameter for monitoring all active carriers, a fourth parameter for monitoring active/idle network channels, fifth parameter for monitoring a network congestion level and a sixth parameter for monitoring event triggered alarms (Column 11, Line 21- Column 12, Line 48).

18.

***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

21. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,415,132).
22. With regards to claim 10, Sabat Jr. teaches wireless communication system, wherein each packet transceiver system further comprises; an RF front end module configured to receive an RF signal (CMI 20-1; Column 6, Lines 11-14), down-convert the received RF signal (RF Downconverter; Fig #3, 40-1...40-n) and forward the down-converted RF signal to an A/D module (Column 7, Lines 30-59); a programmable antenna card (PAC) (Column 9, Lines 35-44) configured to demodulate an RF signal to extract a digital bit stream; a plurality of Input/Output modules (Column 9, Lines 45-56); a control and switching module configured to manage operation within the first transceiver unit (Column 9, Lines 6-23); a gigabit Ethernet card configured to groom data traffic channels and control channels into GigE/RPR traffic flows in accordance with bandwidth requirements for the respective channels (Column 5, Lines 55-61).
23. Sabat Jr. discloses the claimed invention above, but fails to specifically disclose an integrated test and performance module configured to collect network performance data to facilitate network installation and troubleshooting of claim 10.
24. However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

25. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but didn't include testing and monitoring the network as in claim 10, because testing and monitoring a network is standard procedure.

26. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,415,132).

27. Sabat Jr. discloses the claimed invention above, but fails to specifically disclose wherein the traffic consolidator unit further comprises an application server shelf configured to support a plurality of customized software applications of claim 12.

28. However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

29. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but didn't include testing and monitoring the network as in claim 12, because testing and monitoring a network is standard procedure.

30. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,415,132).

31. Sabat Jr. discloses the claimed invention above, but fails to specifically disclose wherein the customized software applications comprise; a continuous network optimization (CNO) application for continuously monitoring network performance

indicators and automatically provisioning sufficient bandwidth in response; a testing/performance monitoring application and a network rerouting application for facilitating near/far-ending testing, setup, installation, and troubleshooting; and a networking rerouting application to automate spectrum and network optimization processes of claim 13.

32. However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

33. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but didn't include testing and monitoring the network as in claim 13, because testing and monitoring a network is standard procedure.

34. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,415,132).

35. Sabat Jr. discloses the claimed invention above, but fails to specifically disclose wherein the network performance indicators are derived from the application processor and the integrated test and performance monitoring card of claim 14.

36. However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

37. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but didn't include testing and monitoring the network as in claim 14, because testing and monitoring a network is standard procedure.

38. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,415,132).

39. Sabat Jr. discloses the claimed invention above, but fails to specifically disclose wherein a local version the CNO application is resident in each of said packet transceiver system and traffic consolidator units in the system of claim 15.

40. However, Sabat Jr. does disclose, "Even at full capacity, there is a benefit to centrally locating the BTS's 12 in order to facilitate access for maintenance and logistics." (Column 7, Lines 1-3). Maintenance and logistics are terms used to connote the work on a network to install, rework, testing, setup, monitoring, and troubleshooting.

41. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made that Sabat Jr. saw a need for testing and monitoring the network, but didn't include testing and monitoring the network as in claim 15, because testing and monitoring a network is standard procedure.

42. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,415,132).

43. Sabat Jr. teaches the claimed invention above, but fails to specifically disclose policies created for scheduled and unscheduled localized events and for loss of network resources of claim 22.

44. Policies to handle scheduled or unscheduled localized events, loss of network, and continuous network optimization are a common business practice.

45. Therefore it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have policies to handle scheduled or unscheduled localized events, loss of network, and continuous network optimization.

46. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,415,132).

47. Sabat Jr. teaches the claimed invention above, but fails to specifically disclose wherein said policies are managed by a policy management module configured to receive network status information from a CNO application and responsively issue requests for network changes to the CNO application of claim 23.

48. Therefore it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have policies managed by a policy management program configured to receive network status information from a CNO application and responsively issue request for network changes to the CNO application.

49. Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Sabat Jr. (U.S. 6,414,132) as applied to claim 13 above, and further in view of Greenwood et al (U.S. 6,504,831).

50. With regards to claim 16, Sabat Jr. fails to teaches wherein the CNO application is comprised of three sub-processes; an RF capacity detection (RFCD) sub-process configured to determine if an increase/decrease in RF capacity required in the network (Column 7, Lines 36-46); a network capacity detection and adjustment (NCDA) sub-

process configured to utilize the RF capacity status information obtained from the RFCD sub-process to determine if an increase/decrease in network-side capacity is required in the network (Column 7, Lines 46-62); a baseband processing distribution and adjustment (BPDA) sub-process configured to utilize the RF capacity and network status information obtained from the RFCD and NCDA processes to determine what level of baseband resources are required (Column 7, Lines 29-35).

51. However, Greenwood discloses the use of RF signal and filters to restrict transmission bandwidth (Column 7, Lines 29-62).

52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Greenwood into the teaching of Sabat Jr. , because Greenwood provides one example for the process to Sabat Jr. blossom and wilt transition of bandwidth in a Cellular Wireless Network (Column 4, Lines 40-42).

53. **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS E. SATKIEWICZ whose telephone number is (571)270-1948. The examiner can normally be reached on Monday to Thursday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E Satkiewicz/  
Examiner, Art Unit 4183

/Len Tran/  
Supervisory Patent Examiner, Art Unit 4183